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| 09/934,694 | 08/23/2001 | Kazutaka Takeuchi | 862.1329 DII | 9312 |

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EXAMINER

AFTERGUT, JEFF H

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| ART UNIT | PAPER NUMBER |
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1733

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/934,694

Applicant(s)

TAKEUCHI ET AL.

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 69 and 72-77 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 69 and 72-77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11-29-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 73 and 75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 73, the applicant appears to be claiming the embodiment described in Figure 27 where the film was spirally wound about the core at least two times and the leading and trailing edges were provided with oblique cuts therein. This is related to the eleventh embodiment of the invention while independent claim 69 from which it depends is related to the thirteenth embodiment of the invention as defined in Figures 42-47. There is no indication that the embodiment of spirally winding would have been useful in the embodiment as depicted with reference to Figures 42-47. More specifically, claim 69 appears to state that the "leading and trailing ends of the wound film "are positioned approximately on a line normal to an outer surface of the columnar member without overlapping each other. In the embodiment depicted in Figure 27, the leading and trailing edges do not line approximately on a line normal to the outer surface. The side edges of the film (not the leading and trailing edges) are brought into adjacent and abutting relationship, and not the leading and trailing edges. It would appear that claim

73 is misplaced and is a mixing of separate embodiments for which applicant was NOT in possession of.

In claim 75, the applicant is defining the shape of the end portions of the film which was wound and states that the angle of the leading and training portions is at an angle other than 90 degrees, however this is solely related to the embodiment as depicted in Figure 39 wherein only a single turn of the film was provided for. Claim 75 depends directly upon claim 72 (and in turn claim 69) which requires expressly that there be multiple turns of the film. As the applicant did not expressly state that the embodiment of Figure 39 was useful when using multiple turns, it is deemed that again applicant was not in possession of the claimed invention (and applicant is mixing embodiments which were not described as being useful together).

3. Claims 73 and 75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claim 73, the applicant recited that the leading and trailing edges where obliquely cut and spirally formed about the columnar member wherein the sheet must make two turns so that the leading and trailing ends of the wound film are positioned on a line normal to the outer surface of the columnar member. However, is not clear how one can spirally wind the film (where the ends of the film would have been at the ends of the columnar member wherein the ends were obliquely cut) and wound the same two

turns and had the leading ends in this configuration as required in claim 69. As noted above it appears applicant is mixing embodiments. Additionally, not only did applicant fail to provide a description of this mixed embodiment it is not clear how one could have made or used the claimed invention as presented.

Regarding claim 75, the ends of the film must lie in a common plane as defined in claim 72 (from which claim 75 depends). It is not seen how one can provide an edge of the film which has leading and trailing edges which are at an angle other than 90 degrees and have the ends of the film butt opposite sides of a plane extending through the axis of the columnar member. Again, as addressed above, the applicant is mixing embodiments and it is not seen how one skilled in the art would have been able to practice the claimed invention.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 69, 72, 74, 76 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 7-205274 in view of Japanese Patent 55-57429 and either one of Japanese Patent 5-131555 or E.P. 415207 (newly cited, submitted by applicant in an IDS).

Japanese Patent '274 suggested that one skilled in the art would have wound a film sheet material about a core to form a tubular film wherein the winding was at least two turns and the leading and trailing ends were aligned in the manner defined in the claims. The reference suggested that one skilled in the art would have welded the edge

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portions of the film together with the application of localized heat and pressure and additionally suggested that the entire assembly would have been fused together with the application of heat and pressure wherein the assembly was disposed upon a polytetrafluoroethylene core. The applicant is more specifically referred to page 8, line 26-page 9, line 4 for the placement of the seam welded tubular film upon the ptfe jig and the application of heat to the entire assembly to fuse the layers together. The reference is silent as to the formation of the joint with a core which expanded during heating (like the ptfe jig of the reference0 while the core or jig was disposed within the mold.

Japanese Patent '429 suggested that those skilled in the art of making a tubular film (a film of ptfe which was joined along the leading and trailing edges to form the tubular film) would have understood that merely joining the tube along the edge with the application of heat and pressure would have resulted in tensile stresses in the film along the edge and discoloration of the film. The reference suggested that rather than locally heating to join the edges together one skilled in the art would have applied the heat over the entire assembly and additionally where multiple plies were involved both plies would have been fused together along the entire surface of the assembly. The applicant is referred to page 3, lines 10-19 and page 8, lines 9-11 of the translation of the document. The reference failed to express that one skilled in the art would have employed an expanding core (note that the reference to Japanese Patent '274 applied the cylinder to a core but failed to employ an exterior mold wherein the core was formed of ptfe which is a known material having a large coefficient of thermal expansion).

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Either one of Japanese Patent 5-131555 or E.P. 415207 suggested that it was known at the time the invention was made to join a thermoplastic impregnated fibre material together in a single heating step wherein a joint of the edges must exist as the material was wound on a core. Both reference suggested that the wound plastic layers would have been wound about the core at least two times (for example 20 times) and then the assembly would have been disposed in an exterior mold (in E.P. '207 a copper tubing was suitable for the exterior mold, in Japanese Patent '555 a glass tubing was used as the exterior mold). The assemblies of both references were subjected to heating wherein the materials were fused together and compressed in the mold as the cores (which were formed from ptfe in both references) were subject to expansion due to the coefficient of thermal expansion of the cores. Both references taught a single heating step to form the assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a single heating step wherein the joint region was welded and fused together with the fusing of the entire assembly in order to eliminate any possible residual tensile stresses in the finished assembly which would have been localized using the heat treatment only at the local of the joint as such heating of the entire assembly was suggested by Japanese Patent 55-57429 and wherein the heating of the entire assembly would not only have incorporated an expandable ptfe core but also would have utilized an exterior mold for application of pressure thereto during the heating step as suggested by either one of Japanese Patent 5-131555 or E.P. 415207 in the operation of making a tubular film as taught by Japanese Patent 7-205274.

With regard to claim 72, note that in Japanese Patent '274 the ends are disposed in the specified relation. Regarding claim 74 again with reference to Japanese Patent '274, note that the ends are in the specified configuration. Regarding claim 76, note that Japanese Patent '274 suggested that one skilled in the art would have formed the film from polysulfone, polyetheretherketone and polyimide, see page 7 of the translation. Regarding claim 77, note that the references all suggested placement of the assembly in a heating furnace or oven for heating the same and such is taken as conventional in the art.

Response to Arguments

6. Applicant's arguments with respect to claims 69 and 72-77 have been considered but are moot in view of the new ground(s) of rejection.

The applicant essentially argues that the reference to Japanese Patent '274 only provided for a heat seal along the joint or abutted portion therein and not over the entire surface, however the reference did suggest the specified post heating operation over the entire surface of the assembly in order to fuse the layers together. The applicant is advised that the reference to Japanese Patent '429 expressly suggested why one skilled in the art would have avoided the type of heating performed by Japanese Patent '274, namely the formation of residual tensile stresses in the finished assembly along with a color change in the region where the localized heating was applied. As such, one skilled in the art would have been motivated to fuse and heat the entire assembly together at once. The references to E.P. '207 and Japanese Patent ' 555 suggested suitable means for heating to fuse all of the layers together. It should be noted that the

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processing in Japanese Patent '274 utilized to apply all of the heat to fuse the layers together incorporated a ptfе jig onto which the assembly was disposed. The references to each of Japanese Patent '555 and E.P. '207 employed a ptfе core onto which the assembly was mounted.

Regarding applicant's argument that the reference to Japanese Patent '429 is non-analogous art, applicant is advised that the claims at hand do not recite that the tubular film is for a photoconductive belt of a photocopier. As such, the claims are not commensurate in scope with the applicant's arguments. Additionally, note that Japanese Patent '429 clearly suggested that those versed in the art would have avoided sealing only along the seam in the manufacture of a tube (and that Japanese Patent '2734 seamed the material only along the seam. As such, in the manufacture of a tubular film article, one versed in the art would have been motivated to heat the entire assembly rather than locally along the seam which would have avoided the recognized disadvantage of imparting residual tensile stresses in the finished assembly along the seam.

Regarding the 112 rejections and claim 72, applicant's amendment to the claims has overcome the rejection under 112 for this claim, however the response has not resolved the problems associated with claims 73 and 75 as identified above.

No claims are allowed.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. United Kingdom '144 relates to a method of forming a composite

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tube wherein a core of ptfe was used and expanded against a metal mold to form a composite article.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
January 7, 2004